# CHERRY LANE SCHOOL ZONE FLASHER CONTRACT 2023-C4 JANUARY 8, 2024 REVISED FEBRUARY 14, 2024



SANITARY: UNIVERSITY AREA JOINT AUTHORITY 1576 SPRING VALLEY ROAD STATE COLLEGE, PA 16801

PH: (814) 238-5361 STORM: FERGUSON TOWNSHIP 3147 RESEARCH DRIVE

STATE COLLEGE, PA 16801 PH: (814) 238-4651

STATE COLLEGE BOROUGH WATER AUTHORITY 1201 WEST BRANCH ROAD STATE COLLEGE, PA 16801

PH: (814) 238-6766 COLUMBIA GAS OF PENNA. INC. 2550 CAROLEAN INDUSTRIAL DRIVE

> STATE COLLEGE, PA 16801 PH: (814) 278-5842; WEEKEND: (888) 460-4332

ELECTRIC: WEST PENN POWER COMPANY 2800 EAST COLLEGE AVENUE STATE COLLEGE, PA 16801

PHONE: VERIZON PENNSYLVANIA, INC.

PH: (814) 231-5338/(800) 255-3443

COMCAST 250 REESE ROAD

STATE COLLEGE, PA 16801 PH: (814) 238-8510/(740) 773-4123

224 SOUTH ALLEN STREET STATE COLLEGE, PA 16801 PH: (814) 231-6528; AFTER HOURS (800) 275-2355

> 441 SCIENCE PARK ROAD STATE COLLEGE, PA 16803 PH: (814) 272-2685

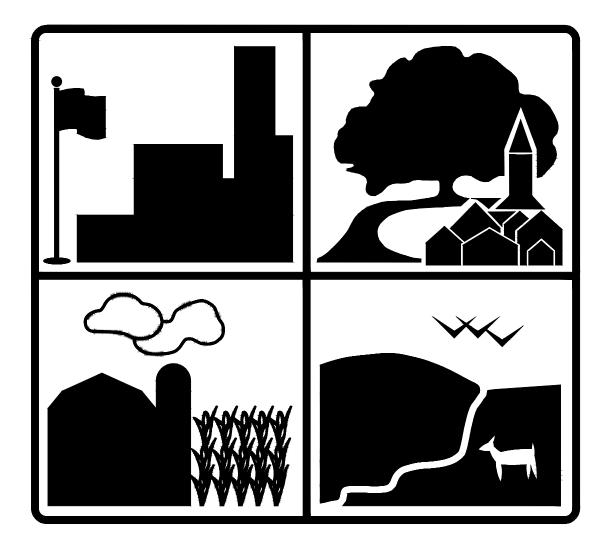
ALLEGHENY COMMUNICATIONS CONNECT (FIBER) 100 BRUSH RUN ROAD GREENSBURG, PA 15601 PH: (866) 463-8222

FIRST ENERGY TELECOM SERVICES, INC. 2800 POTTSVILLE PIKE, P.O. BOX 15164 READING, PA 19612-5164 PH: (877) 611-2111

ALL TEL COMMUNICATIONS P.O. BOX 239 WARRIORS MARK, PA 16877 PH: (814) 632-3501

PENN STATE TELECOMMUNICATIONS AND NETWORKING SERVICES 110 UNIVERSITY SUPPORT BUILDING 2 UNIVERSITY PARK, PA 16802-1013 PH: (814) 863-5419 (JIM REIGH)

# FERGUSON TOWNSHIP



PUBLIC WORKS & ENGINEERING

> 3147 RESEARCH DRIVE, STATE COLLEGE, PA 16801 PH: 814-238-4651 FAX: 814-238-3454 WWW.TWP.FERGUSON.PA.US

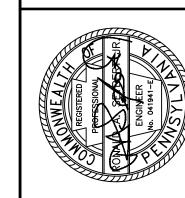
# DRAWING INDEX

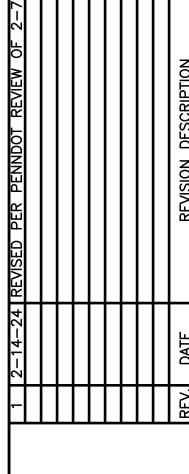
COVER GENERAL NOTES & PROJECT LOCATION WEST CHERRY LANE SCHOOL ZONE BLUE COURSE DRIVE & MARTIN STREET SIGNAL 4-5

FERGUSON TOWNSHIP BOARD OF SUPERVISORS

LISA STRICKLAND JEREMIE THOMPSON VICE CHAIR PATRICIA STEPHENS BOARD MEMBER OMARI PATTERSON BOARD MEMBER MATTHEW HELLER BOARD MEMBER CENTRICE MARTIN

SECRETARY, TOWNSHIP MANAGER





# PROJECT NOTES:

- 1. OWNER: FERGUSON TOWNSHIP 3147 RESEARCH DRIVE STATE COLLEGE, PA 16801 (814) 238-4651
- 2. ELEVATIONS AND HORIZONTAL CONTROL ARE BASED ON NAD83 Pennsylvania State Planes, North Zone, US Foot DATUM. CONTACT FERGUSON TOWNSHIP ENGINEERING DEPT. FOR PROJECT TRAVERSE POINT LOCATIONS/INFORMATION.
- 3. THE LEGAL RIGHT OF WAY ON CHERRY LANE IS VARIABLE.
- 4. THE LEGAL RIGHT OF WAY ON MARTIN STREET IS VARIABLE.

### **UTILITY NOTES:**

- 1. THE CONTRACTOR IS SPECIFICALLY CAUTIONED THAT THE LOCATION AND/OR ELEVATION OF EXISTING UTILITIES SHOWN ON THESE PLANS ARE APPROXIMATE ONLY AND ARE BASED ON RECORDS OF THE VARIOUS FACILITY OWNERS AND, WHERE POSSIBLE, MEASUREMENTS TAKEN IN THE FIELD. THE UTILITY INFORMATION IS NOT TO BE RELIED ON AS BEING EXACT OR COMPLETE. THE CONTRACTOR MUST NOTIFY THE PA ONE-CALL SYSTEM AT LEAST 3 DAYS BEFORE ANY EXCAVATION TO REQUEST EXACT FIELD LOCATION OF UTILITIES.
- 2. THE CONTRACTOR SHALL DIG TEST PITS AT EXISTING CONFLICTS SUFFICIENTLY AHEAD OF CONSTRUCTION TO PERMIT PLAN REVISIONS AS REQUIRED.
- 3. ALL EXISTING ON-SITE UTILITIES SHALL REMAIN FUNCTIONAL UNLESS DESIGNATED FOR REMOVAL OR ABANDONMENT. 4. IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO COORDINATE RELOCATION OF ALL EXISTING UTILITIES THAT
- CONFLICT WITH THE PROPOSED IMPROVEMENTS SHOWN ON THE PLANS.
- 5. NO UTILITY SERVICE MAY BE DISCONNECTED WITHOUT PRIOR APPROVAL OF THE OWNERS REPRESENTATIVE.

# **CONSTRUCTION NOTES:**

1. ALL WORK SHALL BE PERFORMED IN ACCORDANCE WITH THE FOLLOWING PUBLICATIONS: FERGUSON TOWNSHIP CHAPTER 21 - "STREETS AND SIDEWALKS" FERGUSON TOWNSHIP CHAPTER 26 - "WATER (STORMWATER MANAGEMENT)" PENNDOT PUBLICATION 13M - DESIGN MANUAL 2 - HIGHWAY DESIGN PENNDOT PUBLICATION 408 / 2020 (CHANGE No. 7) PENNDOT PUBLICATIONS 34, 35, 37, AND 38 (APPROVED CONSTRUCTION MATERIALS) PENNDOT PUBLICATION 70M - GUIDELINES FOR DESIGN OF LOCAL ROADS AND STREETS PENNDOT PUBLICATION 72M - STANDARDS FOR ROADWAY CONSTRUCTION PENNDOT PUBLICATION 111M - TC 8700 TRAFFIC SIGNING STANDARDS PENNDOT PUBLICATION 148 - TC 8800 TRAFFIC STANDARDS PENNDOT PUBLICATION 213M - WORK ZONE TRAFFIC CONTROL PENNDOT PUBLICATION 236M - HANDBOOK OF APPROVED SIGNS PENNSYLVANIA CODE, TITLE 67, CHAPTERS 441 AND 459

# TRAFFIC CONTROL NOTES:

- 1. MAINTAIN TRAFFIC IN ACCORDANCE WITH THE LATEST EDITION OF PENNDOT PUBLICATION 213M (67 PA CODE, CH. 212) WORK ZONE TRAFFIC CONTROL GUIDELINES.
- 2. PROVIDE FLAGGERS AT INTERSECTIONS DURING LANE CLOSURES.
- 3. SHORT-TERM WORK ZONE TRAFFIC CONTROL SHALL BE REMOVED AT THE END OF EACH WORK DAY.
- 4. DO NOT HAVE TRAVEL LANE DROP-OFFS/OPEN EXCAVATIONS DURING NON-WORKING HOURS. 5. THE POSTED SPEED LIMIT ON CHERRY LANE AND MARTIN STREET ARE 25 MPH.
- 6. PROVIDE ORANGE REFLECTIVE FENCING WITH DELINEATION DEVICES AROUND AREAS OF OPEN EXCAVATION TO DELINEATE FOR

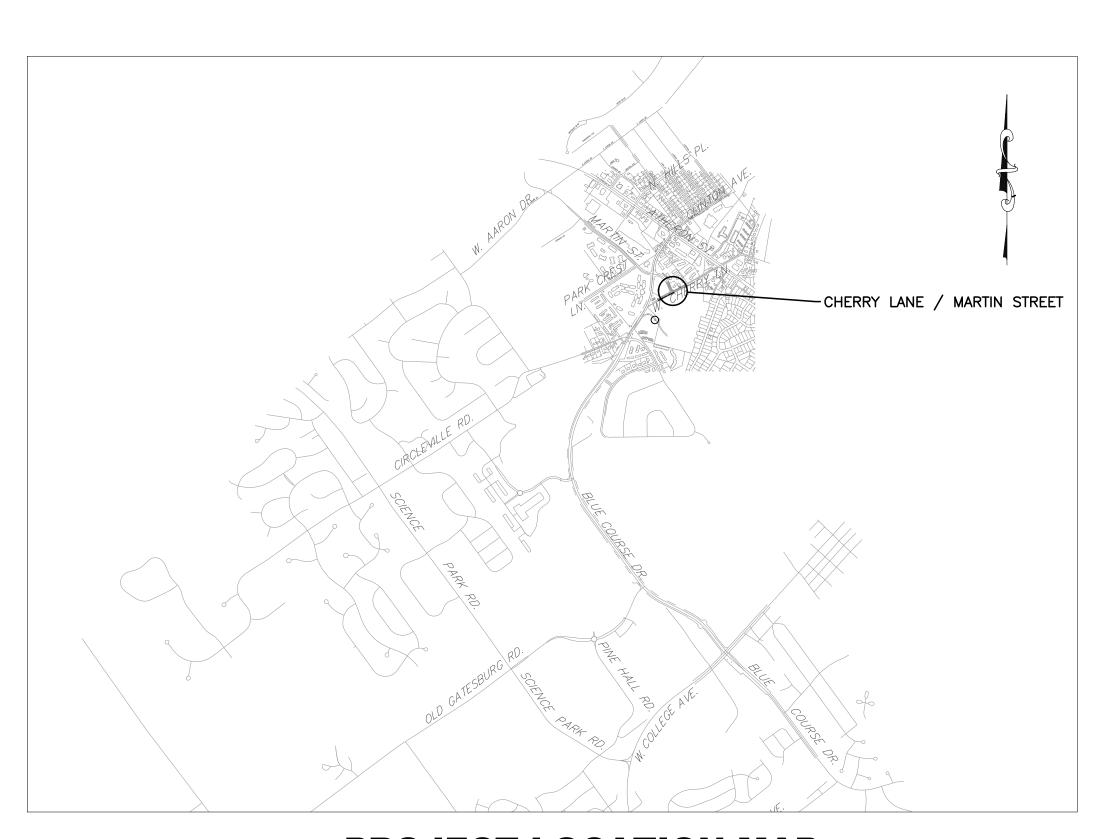
- 7. PROVIDE CANALIZING DEVICES AS NEEDED TO CLEARLY DELINEATE TRAVEL LANE AND ACCESS TO DRIVEWAYS. 8. PROVIDE AN APPROPRIATE NUMBER OF FLAG PERSONS AS NEEDED BASED UPON LIMIT OF WORK AREA.
- 9. NO LANE CLOSURES ON CHERRY LANE AND/OR MARTIN STREET FROM 7:30-8:30 AM AND 2:30-3:30 PM.

# <u>LEGEND</u>

<del></del>	
Existing	Existing Text
<u> </u>	Control Point
$\rightarrow$	Guy Wire
	Utility Pole
	Road Sign
	Manhole
$\oplus$	Water Valve
$\bowtie$	Gas Valve
	Mailbox
	Fire Hydrant
<del>-</del> <del></del>	Light Post
	Clean Out
⊗	Bollard
	Shrub
	Evergreen Tree
	Deciduous Tree
	Fence
	Right-of-Way Line
	Easement Line
	Property Line
ww	Water Line
	Storm Sewer
San San	Sanitary Sewer
— UE—— — UE—— —	Underground Electric
— OE — OE — —	Overhead Electric
— <i>UT</i> — — <i>UT</i> —	Underground Telecomm
— G——— G———	Gas Line
1100	Major Contour
1101	Minor Contour

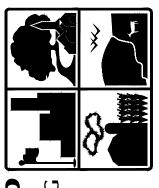
ITEM NO.	ITEM DESCRIPTION	QTY	UNITS
0608-0001	MOBILIZATION	1	LS
0802-0001	TOPSOIL FURNISHED AND PLACED	1	CY
0901-0001	MAINTENANCE AND PROTECTION OF TRAFFIC	1	LS
0951-4014	TRAFFIC SIGNAL SUPPORT, 14' PEDESTAL	3	EA
0954-0012	2 INCH CONDUIT	5	LF
0954-0151	TRENCH AND BACKFILL, TYPE I	5	LF
0954-0302	JUNCTION BOX, JB-27	1	EA
0954-0402	ELECTRIC SERVICE, TYPE B	1	EA
9000-0001	SCHOOL FLASHER ASSEMBLY, SOLAR POWER	1	EA
9000-0002	SCHOOL FLASHER ASSEMBLY, LINE POWER	2	EA
9000-0003	NETWORK INTERFACE AND GATEWAY CONTROLLER	1	EA
9000-0004	SEEDING, SOIL SUPPLEMENTS, AND MULCHING	15	SY

▲ SPECIAL PROVISION

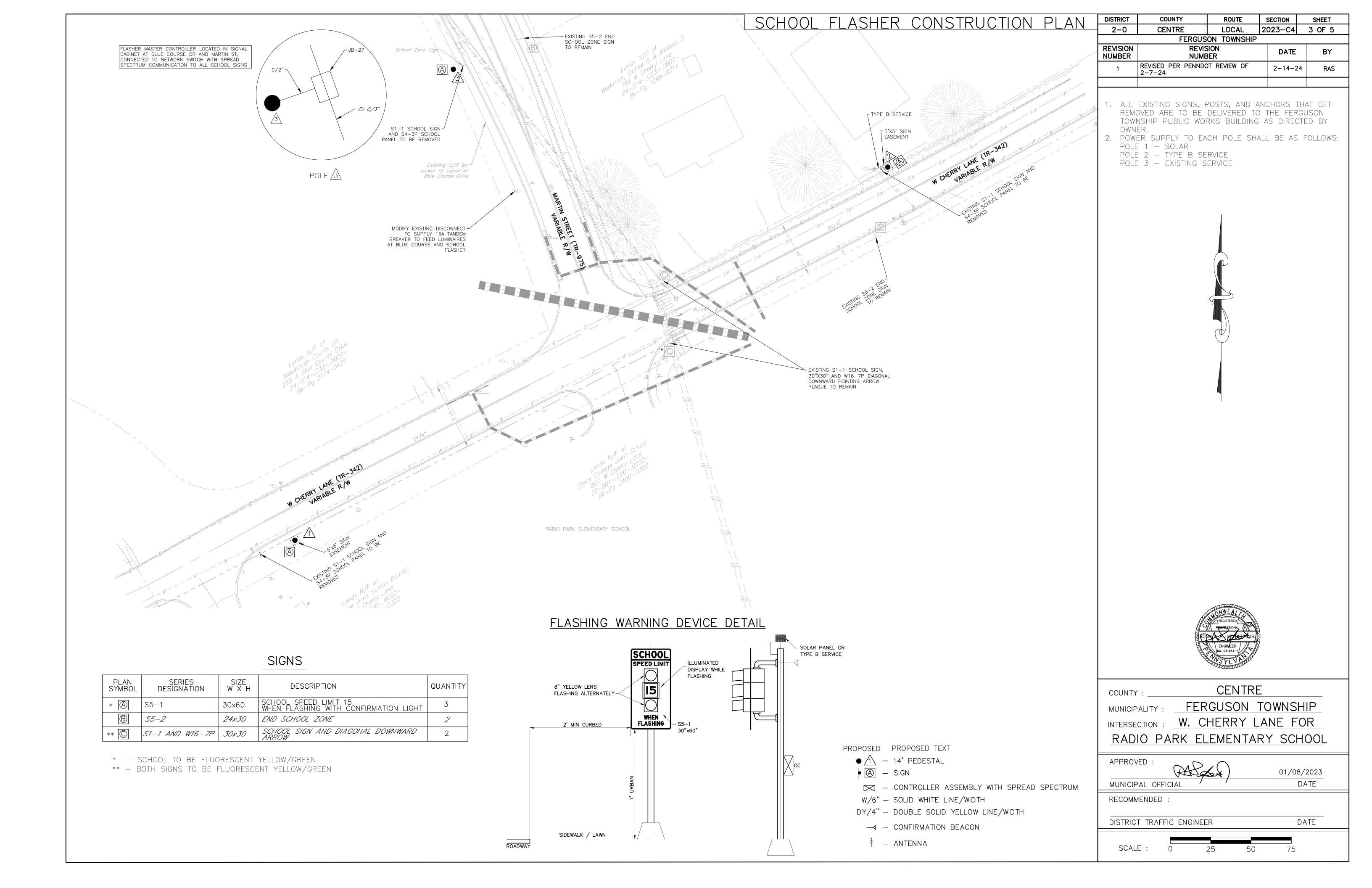


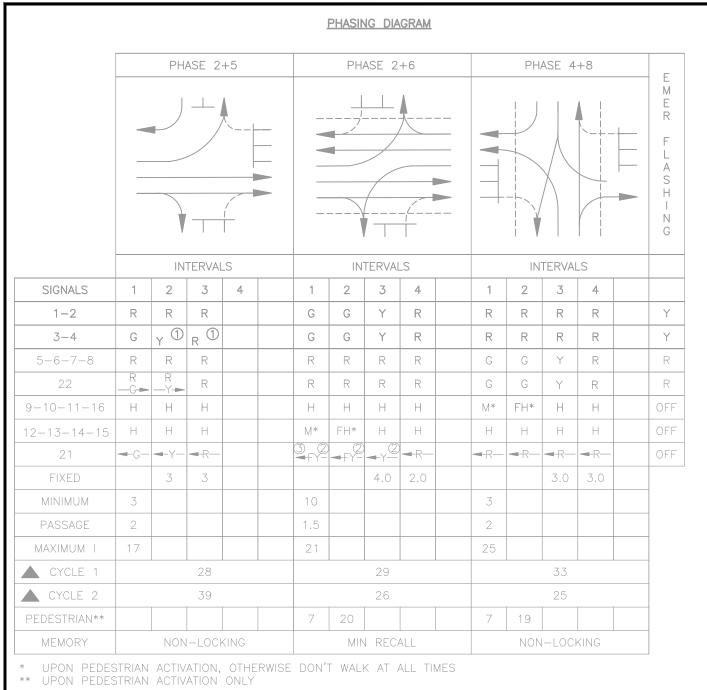
PROJECT LOCATION MAP

1"=2000'



TOWNSHIP ORKS & ENGINEERING





### ADVANCE DILEMMA ZONE NOTES

ESTIMATED TIME OF ARRIVAL: MINIMUM 2.5 SECONDS — MAXIMUM 5.5 SECONDS. RANGE OF DETECTION: MINIMUM 5 FEET —MAXIMUM 450 FEET FROM THE STOP BAR. MINIMUM SPEED BOUNDARY 10 MPH.

# ZONE MAY BE ADJUSTED IN THE FIELD.

PRESENCE DETECTION ZONE NOTES:

RANGE OF DETECTION: MINIMUM 30 - MAXIMUM 100 FEET FROM STOP BAR MINIMUM SPEED BOUNDARY - 1 MPH ZONE MAY BE ADJUSTED IN FIELD.

# COORDINATION PROGRAM

PLAN NO	DAY OF WEEK							TIME	00015	OFFOFT	DEMARKS
	S	М	Т	W	Т	F	S	TIME	CYCLE	OFFSET	REMARKS
1	X	X	X	X	X	X	X	0:00	90		FREE
2		Χ	Χ	Χ	X	Χ		7:00	90	20	CYCLE 1
3		X	X	X	X	X		15:00	90	66	CYCLE 2
4		Χ	Χ	Χ	X	Χ		19:00	90		FREE
5	X						Χ	6:00	90		FREE

DEECETS REFERENCED TO START OF VELLOW DHASE 214

# INTERCONNECT NOTES:

CONTROLLER INTERCONNECTED VIA BROAD BAND WITH ADJACENT SIGNALS TO PROVIDE A PROGRESSIVE MOVEMENT OF TRAFFIC

# INTERSECTIONS INCLUDED IN SYSTEM:

- -THIS INTERSECTION -BLUE COURSE DR/CIRCLEVILLE RD
- -BLUE COURSE DR/HAVERSHIRE BLVD -BLUE COURSE DR/OLD GATESBURG RD

ATSPM DETECTOR MAPPING TABLE											
DETECTOR TYPE LOCATION	DETECTOR SIZE /	PHASE / ZONE (DETECTOR () )									
	FROM STOP BAR	2	5	4	7	6	1	8	3		
PRESENCE	50' x 10' @ 40'	18-19 (1)	17 (1)	26-27 (2)	-	33-35 (3)	-	42-43 4	-		
COUNT	6' x 10' @ -20'	21-22(1)	20 (1)	28-29 (2)	-	36-38 (3)	-	44-45 4	-		
PULSE ADVANCE	6' @ 400'	23 (5)	-	_	-	39 (6)	-	_	-		
DILEMA ZONE	CONTINUOUS @ 450'	24 (5)	-	-	-	40 (6)	-	-	-		
PEDESTRIAN	РВ	49	21-22	50	41-42	51	61-62	52	81-82		

• DETECTOR 27 TO HAVE 20 SECOND DELAY

# CONTROLLER NOTES

- (1) G IF FOLLOWED BY PHASE 2+6.
- (2) -R- FROM 3PM TO 7PM MONDAY THROUGH FRIDAY
- →R— ANYTIME DETECTION ZONE 35 IS OCCUPIED
- (3) FLASHING YELLOW ARROW HAS TWO SECOND DELAY

TYPE A WITH

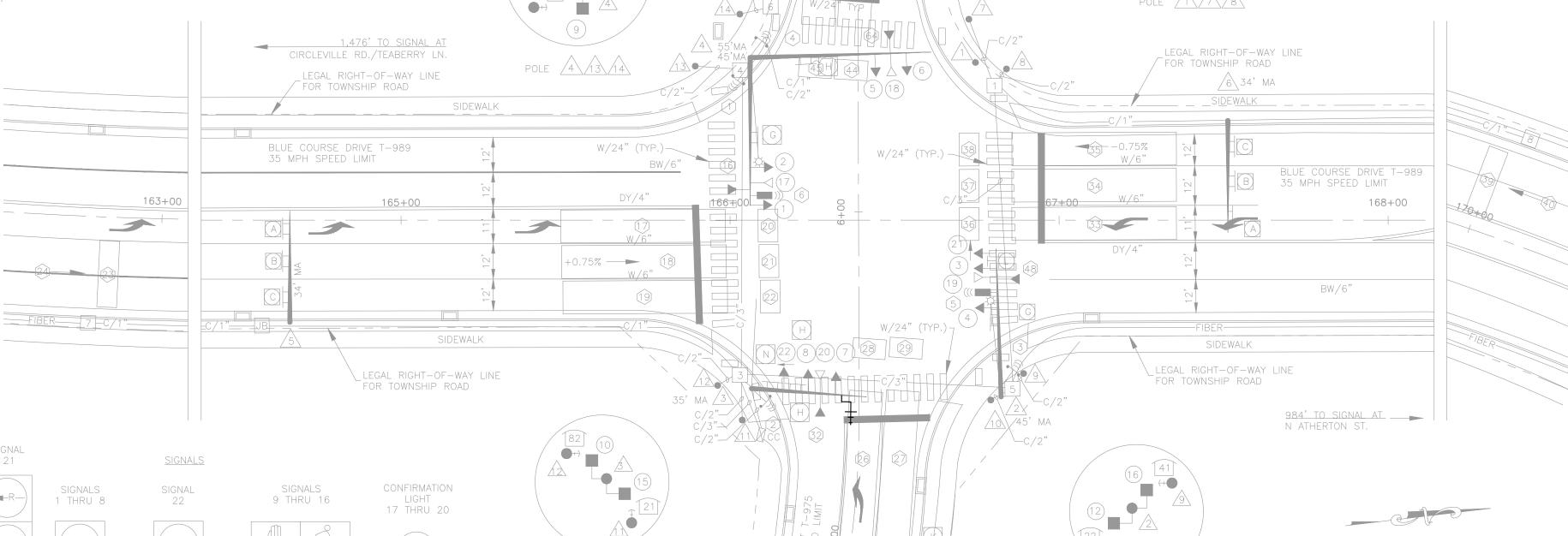
COUNTDOWN TIMER

NOTE: ALL VEHICULAR AND PEDESTRIAN SIGNALS EQUIPPED WITH

EQUIP SIGNALS 1,2,3,4,21 WITH BACKPLATES AND 2" REFLECTORIZED

L.E.D. INDICATIONS.

BORDER.



LUMINAIRE ARM CAPPED FOR

FUTURE USE

LEGAL RIGHT-OF-WAY LINE

FOR TOWNSHIP ROAD

POWER SUPPLY FROM WPP POLE -AT STA 1+11

	<u>ZIGNZ</u>	
PLAN SYMBOL	DESCRIPTION	SIZE
A	R3-5L, LEFT TURN	30"X36"
B	R3-5S, STRAIGHT THROUGH	30"X36"
(C)	R3-6SR, OPTIONAL RIGHT TURN	30"X36"
ERECT WITH PED. PUSH BUTTON	R10-3E, EDUCATIONAL PUSH BUTTON FOR WALK SIGNAL WITH COUNTDOWN TIMER	9"X15"
G	D3-4, Martin St	72"X16"
H	D3-4, Blue Course Dr	96"X16"
K	R3-8A(L-SR), LANE USE CONTROL SIGN	30"X30"
	R10-12A, LEFT TURN YIELD ON FLASHING YELLOW ARROW	30"X36"
M	R3-8A(LS-R), LANE USE CONTROL SIGN	30"X30"
N	R10-10R, RIGHT TURN SIGNAL	30"X36"

CENTRE COUNTY :\_ MUNICIPALITY: FERGUSON TOWNSHIP

COUNTY

CENTRE

2-7-24

CONSTRUCTION NOTES:

2-0

REVISION

NUMBER

ROUTE | SECTION

FERGUSON TOWNSHIP

REVISION

1. INSTALL MASTER TIME CLOCK IN CONTROLLER CABINET

AND CONNECT TO NETWORK SWITCH.

2. INSTALL AND CONNECT RADIO ANTENNA.

NUMBER

REVISED PER PENNDOT REVIEW OF

LOCAL | 2023-C4 |

SHEET

4 OF 5

DATE

2-14-24

APPROVED BY:	1/8/2024
MUNICIPAL OFFICIAL	DATE
RECOMMENDED :	

DISTRICT TRAFFIC ENGINEER DATE

BLUE COURSE DRIVE (T-989) AND MARTIN STREET (T-975)

NECOMMENDED

SCALE :

<u>LEGEND</u>

- A - SIGN

— C/2" — - CONDUIT/SIZE

- PEDESTAL

- VEHICULAR SIGNAL HEAD

1 - VEHICLE DETECTION ZONE

4 — JUNCTION BOX

— CL/2" — - LIGHTING CONDUIT/SIZE

— CP/2" — - CONTROLLER POWER CONDUIT/SIZE

— CONTROLLER ASSEMBLY

W/4" - SOLID WHITE LINE/WIDTH

BY/4" - BROKEN YELLOW LINE/WIDTH DW/6" - DOTTED WHITE LINE/WIDTH — ))) (1) - ADVANCE RADAR DETECTOR ))) 1 - STOP BAR RADAR DETECTOR

DY/4" - DOUBLE SOLID YELLOW LINE/WIDTH

← (4) – PREEMPTION CONFIRMATION LIGHT

▶ 1 - PREEMPTION DETECTOR

1 — LED LUMINAIRE

🛨 – ANTENNA

— PEDESTRIAN SIGNAL HEAD

4 --- PEDESTRIAN PUSH BUTTON WITH SIGN

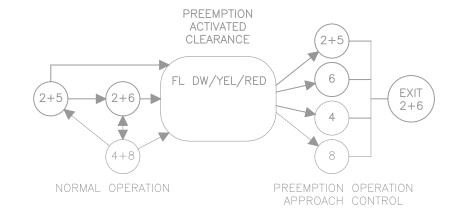
- SIGNAL SUPPORT AND MAST ARM

POLE  $\sqrt{2}\sqrt{9}\sqrt{10}$ 

CHERRY LANE SCHOOL ZONE FLASHER MASTER CLOCK INSTALLED IN CABINET AND CONNECTED TO NETWORK SWITCH.

LEGAL RIGHT-OF-WAY LINE

FOR TOWNSHIP ROAD



EMERGENCY VEHICLE (FIRE APPARATUS) PREEMPTION NOTES:

EMERGENCY VEHICLE PREEMPTION MAY OCCUR DURING ANY INTERVAL OF THE NORMAL CONTROLLER OPERATION. PROVIDE EMERGENCY VEHICLE PREEMPTION EQUIPMENT IN THE CONTROLLER CABINET CAPABLE OF DISPLAYING APPROACH CONTROL OPERATION. DEPENDING ON THE DIRECTION OF TRAVEL OF THE EMERGENCY VEHICLE, ONE OF THE FOLLOWING PHASES SHALL BE DISPLAYED: PHASE 2+5, PHASE 6, PHASE 4, OR PHASE 8. PROVIDE THE FOLLOWING SEQUENCE UPON ACTIVATION BY AN EMERGENCY VEHICLE.

IF THE CONTROLLER OPERATION IS IN INTERVAL 1 (GREEN/GREEN ARROW OR RED/GREEN ARROW) OF A NON-PREEMPTIVE PHASE, THE CONTROLLER SHALL IMMEDIATELY TERMINATE THE CONFLICTING GREEN INDICATION AND PROCEED THROUGH THE YELLOW AND ALL RED CLEARANCE INTERVALS BEFORE PROCEEDING TO THE PREEMPTION PHASE GREEN.

IF THE CONTROLLER OPERATION IS IN INTERVAL 1 (GREEN/WALK) OF A NON-PREEMPTIVE PHASE, THE CONTROLLER SHALL IMMEDIATELY TERMINATE THE CONFLICTING WALK INDICATION AND PROCEED THROUGH THE FLASHING DONT WALK INTERVAL. THE YELLOW AND ALL RED INTERVALS BEFORE PROCEEDING TO THE PREEMPTION PHASE GREEN. THE GREEN INDICATION SHALL REMAIN GREEN THROUGH THE FLASHING DONT WALK INTERVAL.

IF THE CONTROLLER IS IN INTERVAL 2 (GREEN/FLASHING DONT WALK) OF A NON-PREEMPTIVE PHASE, THE CONTROLLER SHALL TIME OUT THE INTERVAL BEFORE PROCEEDING THROUGH THE YELLOW AND ALL RED CLEARANCE INTERVALS. THE GREEN INDICATION SHALL REMAIN GREEN THROUGH THE FLASHING DONT WALK INTERVAL.

IF THE CONTROLLER OPERATION IS IN INTERVAL 1 (GREEN) OF A PREEMPTION PHASE, THE CONTROLLER SHALL REMAIN IN THE GREEN INTERVAL OF THE PREEMPTION PHASE WHILE THE CONFLICTING GREEN INDICATIONS ARE IMMEDIATELY TERMINATED AND PROCEED THROUGH THE YELLOW AND ALL RED INTERVALS.

IF THE CONTROLLER IS IN INTERVAL 1 (GREEN/WALK) OF A PREEMPTION PHASE, THE CONTROLLER SHALL REMAIN IN THE GREEN INTERVAL OF THE PREEMPTION PHASE AND IMMEDIATELY TERMINATE THE WALK INDICATION AND PROCEED TO TIME THE FLASHING DONT WALK INTERVAL TIME. UPON CONCLUSION OF THE FLASHING DONT WALK TIME ANY CONFLICTING GREEN INDICATION WILL BE IMMEDIATELY TERMINATED AND PROCEED THROUGH THE YELLOW AND ALL RED INTERVALS.

IF THE CONTROLLER OPERATION IS IN INTERVAL 2 (GREEN/FLASHING DONT WALK) OF A PREEMPTION PHASE, THE CONTROLLER SHALL REMAIN IN THE GREEN INTERVAL OF THE PREEMPTION PHASE, EXCEPT THE FLASHING DONT WALK SHALL TIME OUT. UPON CONCLUSION OF THE FLASHING DONT WALK TIME ANY CONFLICTING GREEN INDICATION WILL BE IMMEDIATELY TERMINATED AND PROCEED THROUGH THE YELLOW AND ALL RED INTERVALS.

IF THE CONTROLLER OPERATION IS IN THE YELLOW/YELLOW ARROW OR RED CLEARANCE INTERVAL OF ANY PHASE, THE CONTROLLER SHALL TIME OUT THOSE INTERVALS NORMALLY BEFORE PROCEEDING TO THE PREEMPTION PHASE GREEN.

UPON TERMINATION OF THE PREEMPTION, THE SIGNAL SHALL RETURN TO NORMAL OPERATION.

FLASHING TO EMERGENCY VEHICLE PREEMPTION. IF EMERGENCY VEHICLE PREEMPTION OCCURS WHEN THE TRAFFIC SIGNALS ARE IN CONFLICTING/TIME CLOCK FLASHING OPERATION, THE NORMAL FLASHING OPERATION SEQUENCE, AS SHOWN IN THE PHASING DIAGRAM, SHALL

FAIL—SAFE INDICATION. WHEN THE PREEMPTION SIGNAL HAS BEEN ACCEPTED, THE FAIL—SAFE INDICATION SHALL BE DISPLAYED IMMEDIATELY ON THE PREEMPTED APPROACH IN THE FORM OF A FLASHING WHITE LIGHT. THE FAIL—SAFE INDICATION SHALL CONTINUE TO FLASH FOR THE DURATION OF THE PREEMPTION PHASE. NO FAIL—SAFE INDICATION

SHALL BE GIVEN DURING FLASHING OPERATION.

DISTRICT		COUNTY	ROUTE	SECTION	SHEET			
2-0		CENTRE	LOCAL	2023-C4	5 OF 5			
	FERGUSON TOWNSHIP							
	REVISION REVISIONS NUMBER					BY		



COUNTY: CENTRE

MUNICIPALITY: FERGUSON TOWNSHIP

INTERSECTION: BLUE COURSE DRIVE (T-989) AND

MARTIN STREET (T-975)

MARIIN SIREEI (1-975)

APPROVED BY:

MUNICIPAL OFFICIAL

1/8/2024 DATE

RECOMMENDED :

DISTRICT TRAFFIC ENGINEER DATE

SCALE :